



RCRA Brownfields

RCRA Brownfields Prevention Initiative Pilot Projects 2001: Summary Report



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Introduction

The Resource Conservation and Recovery Act (RCRA) Brownfields Prevention Initiative seeks ways to capitalize on the reuse of potential RCRA brownfields to achieve successful cleanup and long-term sustainable reuse of these sites, encompassing economic and environmental/recreational end uses. A potential RCRA brownfield is a RCRA facility or portion of a RCRA facility that is not in full use, where there is reuse potential, and where reuse of that site is slowed due to real or perceived concerns about actual or potential contamination, liability, and RCRA requirements. The RCRA Brownfields Prevention Initiative links the U.S. Environmental Protection Agency's (EPA's) Brownfields Program with EPA's RCRA Corrective Action Program and other Agency cleanup programs, as well as with state cleanup programs to help communities address contaminated, often blighted properties that may stand in the way of economic vitality. The initiative includes:

- Showcasing cleanup and revitalization approaches through RCRA Brownfields Prevention Pilot projects;
- Addressing barriers to cleanup and revitalization with Targeted Site Efforts (TSEs);
- Supporting outreach efforts to EPA Regional Offices, states, and the RCRA community through conferences, training, Internet seminars, and the RCRA Brownfields Web page; and
- Identifying policies that inadvertently may be hindering cleanup, and addressing them with guidance and technical assistance, and through other means.

The RCRA Brownfields Prevention Pilot program was launched in 1999 to encourage and showcase innovative approaches to RCRA cleanups at potential RCRA brownfields. The first four pilots were initiated in 2000. A report, *RCRA Brownfields Prevention Initiative: Pilot Projects 2000 Summary Report*, and a fact sheet summarizing lessons learned from this first round of RCRA Brownfields Prevention Pilots were published in September 2001. A second round of five pilots was announced in August 2001.

This report describes each of the five 2001 RCRA Brownfields Prevention Pilot projects, outlines the major challenges they faced, and identifies lessons learned that EPA and other stakeholders might wish to consider, where appropriate, to improve cleanups by capitalizing on reuse potential of properties subject to RCRA. Note, however, that this summary report describes in general terms approaches used to address brownfields issues arising at individual facilities. The discussions in this report do not constitute EPA statutes, regulations, policy or guidance, and are not intended to substitute for, or in any way supplement, any of these authorities or materials. Readers should be cautioned that the approaches discussed in this document may not be appropriate at a specific site, based on site-specific circumstances (including differences in governing laws). This report also briefly updates progress and lessons learned from the first four pilots since the first summary report was published in 2001.

Overview and Summary

The RCRA Brownfields Prevention Initiative was launched in 1999 to raise stakeholder awareness, identify RCRA barriers to reuse, and try new approaches to address RCRA brownfields issues in a more comprehensive manner. The initiative focuses on opportunities for statutory and regulatory flexibility in the RCRA cleanup program to accelerate site cleanup, facilitate dialogue, and integrate reuse and redevelopment issues, as appropriate, into cleanup decisions. EPA hopes that the initiative will encourage revitalization of RCRA sites and thus enable the creation of new jobs, businesses, residential development, and greenspace for communities. The initiative is designed to improve how federal and state governments implement RCRA programs and work with stakeholders regarding property cleanup, reuse, and revitalization with the aim of yielding more effective results for communities and the environment.

The RCRA Brownfields Prevention Initiative is part of EPA's broader Land Revitalization Initiative, announced in 2003. The Land Revitalization Initiative makes reuse an important part of cleanup in all of EPA's land cleanup programs, and assists EPA managers and staff as they work closely with federal, state, tribal, public, and private stakeholders in facilitating property cleanup and reuse. Such revitalization efforts also may include a coordinated focus on cleanup and reuse of clusters of properties in a geographic area. The Land Revitalization Initiative emphasizes that cleanup and reuse are mutually supportive goals and that property reuse should be an integral part of the way EPA does business. The centerpiece of the Land Revitalization Initiative is the Action Agenda, which serves as a blueprint for restoring more land as a part of site cleanup. The blueprint presents more than 60 steps EPA can follow to help integrate reuse into cleanup programs, establish partnerships, and help make land revitalization part of EPA's organizational culture.

RCRA Brownfields Prevention Pilots

EPA launched two rounds of RCRA Brownfields Prevention Pilots, announcing four pilots in 2000 and five pilots in 2001. The pilots showcase the flexibility of the RCRA program and some of the concepts embodied in RCRA Corrective Action Cleanup Reforms that emphasize faster, more efficient cleanups and creative approaches to cleanups. By showcasing approaches and successes, the pilots are intended to help communities, developers, regulators, and others plan and implement effective strategies for cleanup and reuse of RCRA sites. The pilots also demonstrate that reuse potential can be an important catalyst for accelerating cleanup. While these pilots emphasize flexibility, EPA and the states continue to ensure protection of human health and the environment.

Pilots Announced in 2001

Pharmacia & Upjohn Company in North Haven, Connecticut: This 78-acre facility has a long history of industrial use, including the manufacture of industrial, agricultural, and pharmaceutical chemicals. As part of the corrective action, owners began in 1989 to implement interim environmental measures, including installation of a storm-water containment system and

a groundwater recovery and biological treatment system, dredging of the Quinnipiac River sediments, decontamination and removal of above-ground structures, and site security. The purpose of the pilot is to enhance stakeholder involvement on reuse of the site and incorporate stakeholders' input into the corrective measures study of corrective action alternatives and remediation recommendations for the facility. While light industrial, commercial, and "passive recreational" reuse were discussed, a reuse vision for the site has yet to be determined. However, shortly after the stakeholder meetings began in 2001, Pfizer acquired the property and the pilot was put on hold. While the initial meetings helped educate stakeholders and led to positive attitudes, the pilot had not reached the point where the stakeholders could exchange ideas. Pfizer recently agreed to continue the pilot. Investigation, corrective action, and remedial action have continued, and the site is moving toward determining a cleanup remedy.

Union Carbide Caribe, LLC, in Punta Guayanilla, Puerto Rico: This 900-acre property is a former petrochemical complex that continues to store chemical products and operate an industrial wastewater treatment plant on the southwest coast of the island. The Commonwealth of Puerto Rico identified the UCC, LLC property as a possible location for the Port of the Americas, a deep-draft container transshipment port. The overarching goal of the pilot was to integrate and expedite RCRA Corrective Action and reuse of the UCC, LLC site for the purpose of supporting development of the port. The pilot team was able to revise the closure plan for the UCC, LLC site to accommodate the port project. However, in May 2003, the pilot was put on hold when the Commonwealth of Puerto Rico, citing the findings of an environmental impact analysis, decided to transfer the primary location of the port development to Ponce, away from Guayanilla where the UCC, LLC site is located. The team, therefore, suspended its effort to integrate cleanup of the site with port development.

BP Wood River near St. Louis, Missouri: The BP property is a former 600-acre oil refinery that closed in 1993. The main goal of the pilot was to parcel a large RCRA site for the purpose of accelerating cleanup, thereby facilitating the reuse of a location that once was the area's largest employer. Redevelopment into commercial mixed use is proposed. Parceling, or carving out portions of RCRA sites, has sometimes met with resistance from developers and lenders concerned about being held liable for other portions of the site. However, this pilot has demonstrated that parceling two areas of the site with the greatest reuse potential can work when the owner, city, developer, state, and EPA create an effective communications system that streamlines the permitting process and the production of appropriate comment and no further action letters, while fulfilling all regulatory requirements and ensuring protection of human health and the environment. Groundbreaking for the new retail complex on one of these parcels occurred in August 2002.

City of Muskegon Heights, Michigan: The Safety-Kleen site is a city-owned former wastewater treatment facility that the city later leased to a company that treated hazardous waste and was therefore regulated under RCRA as a Treatment, Storage, and Disposal Facility (TSDF). Eventually, the site was acquired by Safety-Kleen, Inc., treatment activities ceased, and Safety-Kleen, Inc. declared bankruptcy in June 2000. Leveraging resources for additional site characterization, demolition, and cleanup has been a difficult challenge due to the city's status as a potentially liable party. Developers interested in developing the site for affordable housing are

motivated but also lack resources. The main goal of the pilot is to help pave the way for residential redevelopment using an existing agreement between EPA and the State of Michigan concerning cleanup and voluntary corrective action concepts. The city catalyzed creation of a pilot team approach that has brought trust and commitment to the voluntary effort and an innovative memorandum involving EPA, the state, and the city, and is maintaining steady progress toward addressing cleanup concerns.

Approved Oil Services/Milt Adams, Inc., in Commerce City, Colorado: This one-acre property is a former oil processing complex that ceased operations in 1997. The main goal of the pilot was to develop a voluntary approach to cleaning up a RCRA site where the owner is insolvent or bankrupt. The pilot demonstrated that with consistent participation and encouragement from EPA and the state, a core group of stakeholders representing used-oil generators and waste oil contributors could organize to collect money, complete a multi-party cleanup, and address concerns regarding potential liability. When stakeholders could not obtain liability insurance for such a small site, EPA and the state issued a comfort letter to stakeholders who had contributed to the cleanup, stating that it was highly unlikely that additional cleanup money would be sought from them. Cleanup to clean closure, or “walkaway” standards, was completed in August 2003. EPA and the site owner are now working with the city, nearby residents, and potential developers to establish a reuse vision and to redevelop the site based on that vision.

Pilots Announced in 2000

There has been notable progress at three of the four initial pilot sites since a report on the first round of RCRA Brownfields Prevention Pilots was released in September 2001. At ***CBS/Viacom in Bridgeport, Connecticut***, a former electrical wiring manufacturer, the pilot accomplished its main objective to show that EPA and a non-authorized state program could resolve differences and fulfill both state and federal cleanup requirements. Two potential purchasers have expressed interest in the site, where cleanup continues, but is not yet complete. The future at ***Bethlehem Steel Corporation in Lackawanna, New York***, looked promising in 2001, but the pilot was put on hold when Bethlehem Steel declared bankruptcy, and the property was sold to the International Steel Group of Cleveland, Ohio. At ***PECO-Energy in Chester, Pennsylvania***, cleanup and redevelopment, now slated for early 2004, were accelerated by combining two consent orders into one administrative process. The pilot at ***Blue Valley Redevelopment in Kansas City, Missouri***, is progressing due to pilot stakeholders’ cooperation and commitment to overcoming the many hurdles associated with cleaning up and reusing a large multi-facility industrial area.

Lessons Learned from RCRA Brownfields Prevention Pilots

The five pilots announced in 2001 have posed challenges, but they also have produced significant accomplishments, innovations, and valuable lessons learned that may be appropriate at other RCRA sites. Some of the challenges included: change in ownership of the site, insufficient information about reuse plans for the site, uncertainty regarding the extent of environmental contamination and its impact on marketability, concern over potential liability for future cleanup, transfer of the development project to an entirely different location, differing

needs and expectations of regulators and developers and owner/operators regarding the time line for cleanup and reuse, and confusion related to the liability and regulatory requirements of the different federal and state cleanup programs addressing the site.

The 2001 pilots, like the 2000 pilots, illustrate an overarching lesson learned. This lesson is that frequent communication between federal, state, and local governments, community members, owners/operators, developers, contributors to site environmental conditions, and other stakeholders—coupled with the RCRA corrective action reforms’ emphasis on “results over process”—can expedite cleanup and allow for reuse at RCRA facilities. Additional lessons learned from the 2001 RCRA Brownfields Prevention Pilots are the following:

RCRA sites can be effectively cleaned up with reuse as a goal.

- Reuse potential can help move an inactive site forward towards cleanup.
- Property owners can benefit from development of a long-term strategy that considers reuse along with remediation.
- Small municipalities, and particularly disadvantaged environmental justice communities, face special challenges related to reuse of RCRA brownfields.
- Voluntary multi-party cleanups at RCRA sites can be accomplished efficiently and successfully.
- There is a need to address the issue of non-payers in voluntary multi-party cleanup collection systems.
- The size of a RCRA site can both help and hinder voluntary cleanup and reuse.

Effective partnerships build trust, improve communication, and facilitate innovation.

- Using a team approach, regulatory issues can be addressed in an expedited manner.
- Adequate representation by all key stakeholders is essential to success. It is critical that stakeholders are aware of other developments or decisions that might impact their project.
- Leadership is needed from both the regulators and regulated community.
- A successful team benefits from strong and committed champions from every stakeholder group. An advocate to champion and shepherd the larger reuse project, beyond RCRA cleanup concerns, is beneficial.
- A proactive owner/operator can capably serve as project champion.

A mechanism is needed to educate and update all stakeholders about tools that reduce liability concerns, expedite cleanup, and promote reuse of RCRA sites, and to encourage the appropriate use of such tools and innovations in all EPA Regions.

- The use of comfort and no further action letters can help reduce lender and developer liability concerns.
- Carving out, or “parceling,” large RCRA sites can greatly accelerate cleanup and reuse of the parceled portions.
- Creative approaches can be found to address liability concerns.

Enhancing efforts to inform stakeholders about site conditions and cleanup options can improve reuse discussions.

- Early engagement and frequent communication with stakeholders about site cleanup and reuse can lead to a positive attitude towards working with the owner/operators and EPA.
- Site remediation efforts can be improved by involving stakeholder groups in reuse discussions so that site owners know the long-term concerns of the community.
- Close cooperation between EPA and the site owner generally is critical in obtaining focused input from stakeholder groups.

The reuse and political aspects of the project may be more significant in determining the outcome of the project than RCRA cleanup concerns.

- The RCRA cleanup aspect of the project cannot drive reuse. Reuse has to drive itself or be driven by a reuse champion before RCRA cleanup actions can be identified and implemented in a way that accommodates reuse of the site.

A feasible reuse plan is needed early in the process in order to coordinate remediation with reuse.

- The more that is known about the specific reuse plans for a property, the better, because site investigation activities can focus on questions related to specific land uses.

Applying What We Have Learned

Through the RCRA Brownfields Prevention Pilot projects, EPA and states have “learned by doing.” The lessons learned from these pilots have affected both the RCRA program and broader revitalization efforts across EPA programs. The pilot projects have served as a testing ground for innovative tools and approaches to encourage cleanup and reuse. They also have served as a laboratory where EPA, states, local municipalities, and other stakeholders have developed new revitalization strategies. Several of these tools and approaches, or different versions of them, are being used in many EPA Regions and in states with authorized RCRA programs. One example is the use of comfort letters. Other tools and approaches are being developed based, in part, on experiences from the RCRA Brownfields Prevention Pilot projects, including the “site cluster” approaches and pilots that address cleanup and revitalization of several properties in a geographic area. Some of the tools and approaches developed through the RCRA Brownfields Prevention Pilot projects are discussed below, along with other Agency initiatives that EPA is employing at RCRA sites. We also address how the pilot projects fit into larger EPA efforts to encourage land revitalization across cleanup programs.

Testing Tools and Approaches, Discovering New Ones

Communication: Among the approaches tested in RCRA Brownfields Prevention Pilot projects is frequent and early communication among stakeholders, including EPA, states, facilities, local governments, citizen groups, and others. This approach has proven to be one of the most effective and important ingredients in successfully moving a site forward through cleanup and reuse. To encourage such communication, EPA funded several Targeted Site Efforts (several of them in conjunction with RCRA Brownfields Prevention Pilot projects), which focused on developing and implementing a strategy for regular communication among stakeholders.

Partnerships and Outreach: Recognizing the need for sharing information, “getting the word out,” and better coordination, EPA also has taken steps to improve its own external and internal communication about tools and resources useful in encouraging RCRA cleanup and reuse. EPA has conducted several Internet training forums on revitalization issues, developed new partnerships (e.g., with the Wildlife Habitat Council), discussed revitalization tools at conferences, and created a new Web page that deals exclusively with the issues of RCRA site revitalization: www.epa.gov/rcrabrownfields. EPA continues to seek new ways to improve communication among stakeholders at RCRA sites and across its programs.

Comfort Letters: One of the tools most often used in RCRA Brownfields Prevention Pilot projects is the comfort letter (sometimes called comfort/status letters). Comfort letters provide information regarding the regulator’s (EPA’s or a state’s) current knowledge about a specific property. Though they are not “no-action assurances,” comfort letters may be useful to prospective purchasers, lenders, or insurers of RCRA sites who wish to assess the likelihood of future EPA or state regulatory involvement in the property. Comfort letters continue to be used in the RCRA program to facilitate the cleanup and reuse of RCRA properties, as well as to build goodwill between various stakeholders involved in the revitalization process. Information on comfort letters is available at <http://www.epa.gov/rcrabrownfields/liable.htm>.

Parceling Parceling of RCRA sites, or the separation of a particular portion of a property from the rest of a RCRA facility for cleanup purposes, was applied in several RCRA Brownfields Prevention Pilots and is being practiced in many EPA Regions and states. Parceling has the potential to “free up” portions of a RCRA site for cleanup and reuse on a faster schedule than the rest of the facility. Parceling can turn a portion of the property into a positive resource for the community and can provide revenue (through land transfer and new economic activity) for cleanup of the remaining portions of the site. Parceling also allows large RCRA facilities to move through cleanup and reuse using a phased approach.

Prospective Purchaser Agreements: Prospective Purchaser Agreements (PPAs) were considered in a few RCRA Brownfields Prevention Pilot projects and are used occasionally by EPA to facilitate cleanup and reuse. A PPA is a covenant not to sue granted by EPA to an acquiring entity of a property, in return for a specified benefit to the environment, community, or government. PPAs have proven to be valuable tools in encouraging the reuse of several RCRA facilities. In response to the considerable interest in them, EPA addressed PPAs as one of several options to encourage reuse in an April 8, 2003, memo entitled, *Prospective Purchaser Agreements and Other Tools to Facilitate Cleanup and Reuse of RCRA Sites*, which is available at <http://www.epa.gov/rcrabrownfields/pdf/memoppa.pdf>.

New Approaches Beyond these somewhat established approaches, RCRA Brownfields Prevention Pilot projects also have contributed to the development of new strategies and tools for encouraging cleanup and reuse. Among the tools and approaches EPA currently uses are “ready for reuse” determinations (EPA technical determinations that a site is “ready” for a particular type of reuse, e.g., industrial), and “site cluster approaches,” which are cross-programmatic approaches to address cleanup and revitalization of several contaminated or potentially contaminated sites in a geographic area. These strategies are proving useful in encouraging cleanup and reuse at RCRA, brownfields, and other kinds of sites.

Changing Culture Across EPA’s Cleanup Programs

The RCRA Brownfields Prevention Pilot projects were implemented during a time of changing culture within EPA. EPA’s central mission is the protection of human health and the environment. EPA has recognized that cleanup of contaminated properties often can be expedited when there is reuse interest at a particular site. Further, EPA has recognized that when a hazardous waste site is cleaned up and revitalized (versus not being used), there are positive benefits to the community, either through tax revenues and jobs (if the property is used for residential or industrial activities) or through social value (if the property is used for green space or recreational activities). To help federal, state, and local governments work together to clean up and put formerly contaminated property back into use in a way that benefits local communities, EPA established the Land Revitalization Agenda in 2003. An umbrella initiative, the Land Revitalization Agenda encourages the cleanup and reuse of contaminated land across EPA’s cleanup programs. The RCRA Brownfields Prevention Pilot projects have played a key role in the Agenda by demonstrating the usefulness of many tools and approaches and providing opportunities for cross-pollination of ideas with other programs.

Looking Forward

EPA is working to address concerns raised during the RCRA Brownfields Prevention Pilot projects and through other forums related to revitalization of RCRA sites. EPA will continue to work with the RCRA community to find ways to facilitate cleanup and reuse. For example, in February 2003, EPA issued the *Final Guidance on Completion of Corrective Action Activities at RCRA Facilities*, which answered a long-standing call for an approach to recognize completion of cleanup under RCRA and to remove the stigma of RCRA regulation from sites. Looking forward, as the RCRA Corrective Action Program reaches its Government Performance and Results Act goals (“current human exposure controlled” and “migration of contaminated groundwater controlled”) for Fiscal Year 2005, the program is anticipating the next steps of cleanup, including remedy selection. The Agency recognizes the importance of factoring reuse considerations into the remedy selection process.

The overall effect of the RCRA Brownfields Prevention Pilot projects on the RCRA program has been to increase attention on the role revitalization plays in encouraging RCRA site cleanup, in addition to increasing the understanding that RCRA cleanup processes and requirements do not have to be obstacles to getting properties through cleanup to reuse. It is now recognized that the economic promise of reuse can be a “driver” for cleanup and that EPA can play a role in facilitating this cleanup. In keeping with this understanding, EPA is applying the specific tools, approaches, and lessons learned from these pilot projects more broadly across the RCRA program. EPA also continues to share success stories from the field, develop policies and new tools to encourage RCRA site reuse, and address policy barriers to reuse.

**Pharmacia & Upjohn Company
North Haven, Connecticut**

Site Description

The Pharmacia & Upjohn (P&U) facility is a 78-acre site abutting the Quinnipiac River in North Haven, Connecticut, with an approximately 160-year history of industrial use. Initially, clay was mined and bricks were manufactured on the site. Beginning shortly after World War II and continuing through 1993, specialty and industrial chemicals were manufactured at the site. These chemicals included pharmaceuticals, dye, pigment, and photographic intermediates; agricultural treatment chemicals; ultraviolet light initiators; coating and adhesive additives; and flavor and fragrance chemicals. Wastewater from the manufacturing process was discharged into clay pits that had been mined. A 17-acre parcel of the site purchased in 1975 included five unlined pits into which wastes from etching, galvanizing, plating, and cleaning of electrical components had been deposited.

A RCRA Administrative Order was issued in 1989. A facility investigation conducted as part of that order identified 28 areas of environmental concern. Owners began to implement a series of corrective action interim measures at the site. These measures included installation of a storm-water containment system, installation of a groundwater recovery and biological treatment system, dredging of the Quinnipiac River sediments, decontamination and removal of above-ground structures, and site security. A second Administrative Order issued in 1994 called for P&U to continue interim measures already in place, conduct human health and ecological risk assessments, and prepare a corrective measures study (CMS). The purpose of the CMS is to develop and evaluate the corrective action alternatives for the facility and recommend remediation measures. All manufacturing buildings were demolished, decontaminated, and/or disposed of by 1996. A recent streamlined risk evaluation demonstrated that exposure pathways involving ambient air and surface water are either nonexistent or incomplete.

Redevelopment Vision

This pilot focused on gathering community input on cleanup and reuse of the site. Light industrial, commercial, and “passive recreational” reuse have been discussed, but a reuse vision for the site has yet to be determined.

Site-wide contamination is due primarily to historic wastewater treatment operations, including settling and treatment basins, and the disposition of solids and sludges. Releases from past manufacturing operations also are thought to have contributed to site-wide contamination. The site is zoned for commercial/industrial use and is surrounded by compatible uses. An on-site representative provides around-the-clock security, operates and maintains the groundwater treatment system and the RCRA units undergoing closure, and performs other tasks associated with P&U’s interim site stabilization initiatives.

Pilot Goals

The proposed goals of the pilot were to:

- Enhance stakeholder input on reuse of the site, and use that input in the corrective measures phase of the site corrective action;
- Pursue input on local zoning requirements, current wetlands designation, habitat, and public access; and
- Seek public involvement much earlier in the corrective action process than is typically conducted.

The proposed pilot innovations were to:

- Showcase enhanced measures for connecting communities to RCRA cleanups and future uses of the site; and
- Showcase front-end public involvement in the corrective action process.

The pilot began in the summer of 2001, when EPA Region 1 approached the various stakeholder representatives, including P&U, the State of Connecticut's Department of Environmental Protection, the town of North Haven, the town's Citizen Advisory Panel, and several conservation groups, and invited them to participate in the pilot. Although specific reuse plans were not established at the beginning of this pilot, the pilot was designed to facilitate and inform the reuse planning process. A series of meetings were held with EPA Region 1 and P&U. Each meeting targeted the concerns of a specific stakeholder group—municipal officials, the Citizen Advisory Panel, and conservation groups.

Current Status

Shortly after a series of stakeholder meetings were completed by EPA Region 1 and P&U, the company was acquired by Pfizer, and the pilot was put on hold. However, a consistent message that came out of the stakeholder meetings was an interest in light industrial or commercial reuse of the site, along with a “passive recreational” component that allows for scenic views from the wetlands-protected areas of the site. A final meeting with the community at-large had been planned by EPA Region 1 and P&U, but was postponed due to the acquisition of the site by Pfizer. Discussions between EPA Region 1 and Pfizer regarding completion of the pilot process began in the summer of 2003. Pfizer recently agreed to continue the pilot, so the final meeting with the community now can be scheduled. Investigation, corrective action, and remedial action have continued throughout the acquisition, and the site is moving toward determining a cleanup remedy.

Challenges

- *The pilot process was disrupted and delayed by the transfer of ownership of the site.* When ownership of the site was transferred to Pfizer, the stakeholder participation process was put on hold. The new owner needed time to assess the situation before proceeding with the pilot.

Although the stakeholders were pleased to have participated in the initial meetings, the project never reached the point where they could exchange ideas as a group. Since the project was put on hold, the stakeholders have not received any feedback from EPA Region 1 and P&U regarding the initial meetings or the status of the pilot.

- *Stakeholders had limited understanding of site conditions, which hampered discussions of reuse.* Each meeting with a stakeholder group opened with a statement of purpose and information on the history of the site, the site investigation, and remediation efforts to date. This information was presented jointly by EPA Region 1 and P&U. Because some stakeholders had a better understanding of the site history and current conditions than others, each presentation was geared to the level of knowledge of the majority of stakeholders in the group while maintaining a focus on discussion of site cleanup and reuse. However, some stakeholders still felt that they needed a better understanding, in layman's terms, of the nature of contamination at the site and the available cleanup options before focusing on potential reuse plans.

Lessons Learned

- *Early engagement of stakeholders has led to a positive attitude toward working with the owners and EPA.* Stakeholders were pleased that they were given the opportunity to participate in the deliberations about the future of the site.
- *Site-owner knowledge of long-term concerns of the community should result in an improved site remediation effort.* The stakeholder meetings provided a forum for the community to discuss with P&U the potential long-term environmental impact of the site on site reuse. This knowledge will allow the owners to consider community concerns prior to remediation planning.
- *It is important that stakeholders be kept informed of progress.* After Pfizer put the process on hold, there was no communication with the stakeholders. They were not informed by EPA Region 1, P&U, or Pfizer of the results of the stakeholder meetings, or of future plans for the pilot.
- *An enhanced effort to inform stakeholders about site conditions and cleanup options could have improved reuse discussions.* Had EPA Region 1 and P&U been more aware of the disparities in stakeholder knowledge regarding site history and current conditions, they could have taken necessary steps to better educate stakeholders. Although P&U made an effort to educate the stakeholders about the site over the years and at the beginning of each meeting, a number of stakeholders still felt uncomfortable with the technical issues related to the site. Extra effort might be needed to educate stakeholders, in layman's terms, about technical and regulatory matters related to remediation and reuse.
- *Transfer of property ownership can play a significant role in the progress of a pilot.* If EPA Region 1, P&U, and/or Pfizer had informed the stakeholders of changes in site ownership, all parties concerned, including stakeholders, may have been in a better position

to maintain the pilot's momentum. A new owner may need time to determine whether the pilot's activities are compatible with the company's business and environmental management policies. If stakeholders are kept aware of pending merger and acquisition activities, they may be able to take steps to maintain the project's momentum, including taking the first step of initiating regular contact with the new owners.

- ***Close cooperation between EPA and the site owner is critical in obtaining focused input from stakeholder groups.*** By working cooperatively to attain the goals of the pilot, EPA Region 1 and the site owner greatly contributed to the overall success of the stakeholder meetings. EPA Region 1 and P&U shared the tasks of developing the agendas, arranging logistics, and making presentations at the meetings.

EPA Region 1 Pilot Team Leader: Bob O'Meara, 617-918-1360

**Union Carbide Caribe, LLC
Punta Guayanilla, Puerto Rico**

Site Description

The Union Carbide Caribe, LLC (UCC, LLC) facility in Punta Guayanilla is a former petrochemical complex in a semi-rural industrial area on the south coast of Puerto Rico, approximately seven miles west of the city of Ponce. Unemployment in the area is over 25% and the poverty rate is nearly 66%.

The 900+ acre UCC, LLC facility is divided into two principal locations, the Main Plant and the Puntilla. The Puntilla occupies most of a peninsula that extends into the Caribbean Sea. UCC, LLC permanently ceased chemical production at the site in 1985 but continues to use the property as a terminal for bulk storage of chemical products and to operate an industrial wastewater treatment plant. The original facility has been dismantled, but the infrastructure is still in place. UCC, LLC has sold a few parcels to adjacent businesses. A RCRA permit was issued in 1988. The permit was renewed in 2003, effective subject to appeal. The site is being addressed by UCC, LLC with EPA oversight. UCC, LLC is a wholly owned subsidiary of the Dow Chemical Company.

There are 36 Solid Waste Management Units (SWMUs), which were identified as potential units in which solid waste was managed, with potential releases of hazardous wastes or hazardous constituents. A major risk at the site is the unintended release of contaminants from the SWMUs into the soil, the groundwater, and the on-site open water canal. The release of

contaminants also poses a potential threat to the waters of the Caribbean Sea. Some units were closed and, where appropriate, hazardous waste was removed and disposed of in accordance with RCRA regulations. At other SWMUs, hazardous waste was chemically and physically stabilized and left in place. Some units were closed and institutional controls established to ensure that they are not disturbed. Others were deemed to require no further corrective action. A pump-and-treat system was installed to treat and prevent off-site migration of groundwater contamination.

Reuse Vision

The Commonwealth of Puerto Rico identified the UCC, LLC property as a possible location for the Port of the Americas, a deep-draft container transshipment port with a pier, warehouses, light industrial, and other related facilities.

In 2000, the Commonwealth of Puerto Rico approached EPA about using the UCC, LLC property as a potential site for an international port, which they call the Port of the Americas project.

Pilot Goals

The goals of the pilot changed over time. However, the overarching goal was to integrate and expedite RCRA corrective action and reuse of the UCC, LLC site for the purpose of supporting a deep-draft container transshipment port. The vision for the site, as described by representatives on the pilot team from the Commonwealth of Puerto Rico and the Dow Chemical Company, called for building a new pier, warehouses, light manufacturing and other support facilities, and roads.

The proposed goals of the pilot as expressed in the pilot application submitted by the Infrastructure Financial Authority (AFI) (or Autoridad para el Financiamiento de la Infraestructura de Puerto Rico) were to:

- Finalize a site acquisition plan;
- Overlay the port design onto the existing RCRA permit;
- Determine the fate of each SWMU;
- Structure the environmental management system for the port; and
- Negotiate a RCRA Prospective Purchaser Agreement.

Given the initial proposed goals, EPA saw potential for implementing several innovative approaches, including:

- Creating a model RCRA PPA;
- Carving out a parcel of the site from the RCRA permit to foster quick reuse;
- Testing the use of an environmental management system, which is ISO 14000 compliant, as a tool to foster good environmental stewardship of the property by developers and owner/operators at the site; and
- Showcasing the management of SWMUs in a manner that will allow them to be addressed under a new owner who will redevelop the site.

During the initial meetings of the pilot team, UCC, LLC proposed short- and long-term goals and requested EPA action. The UCC, LLC-identified goals were to:

- Delay the closure of the two equalization basins and the West Aeration Basin to accommodate reuse of the parcels;
- Exclude from corrective action requirements a parcel of land that EPA had determined required “no further action” on the west end of the Puntilla. This parcel of land would be used in the first phase of development of the port facilities;
- Publish comfort letters for prospective investors; and
- Modify the RCRA permit as necessary to support infrastructure (road) construction.

A pilot team comprised of representatives from the various stakeholders, including the Commonwealth of Puerto Rico, UCC, LLC, EPA Headquarters, and EPA Region 2, was convened in the summer of 2001. The team met on a monthly basis via teleconference, held a

face-to-face meeting in Puerto Rico that included a public meeting, and met at Region 2's office in New York.

Current Status

In May 2003, after the Commonwealth of Puerto Rico announced that the transshipment port was to be built in Ponce instead of Guayanilla, the pilot was put on hold. The announcement cited findings of the U.S. Army Corps of Engineers' Environment Impact Statement that the Guayanilla area is a major habitat for the endangered manatee. There is a possibility that, in the future, the Guayanilla site will be used for facilities to supplement the Ponce port. The extent of this development is likely to depend on, among other things, economic conditions, the level of activity at Ponce, and competition from other Caribbean islands.

UCC, LLC has explored other options for reuse of the site, including selling parcels to adjacent businesses that are considering expansion. Depending upon circumstances, UCC, LLC may once again look into expediting RCRA cleanup to accommodate planned reuse and request that EPA apply redevelopment tools at the site, such as parceling or comfort letters. In the interim, RCRA corrective action continues at the site under the permit that was renewed in 2003 and is effective subject to appeal. The permit was not modified during the pilot process.

Challenges

- *Insufficient information about the anticipated reuse of the site delayed the RCRA cleanup decision-making process.* The Commonwealth of Puerto Rico presented the group with a very ambitious and exciting goal—the possibility of development of the Port of the Americas. However, the commonwealth did not present a site plan detailing the placement of facilities, roads, and other utilities. A preliminary site plan made available early in the process would have allowed the team to overlay the port design onto the existing RCRA permit, thereby enabling the development of compatible remediation and closure plans. Instead, at the face-to-face meetings in Puerto Rico and New York, the commonwealth presented a map delineating a proposed road expansion that would have impacted one of the SWMUs.

In the interim, UCC, LLC proposed a delay in the closure of several SWMUs in order to accommodate the anticipated plans for reuse of the SWMU areas. UCC, LLC and EPA discussed permit modifications that would have helped foster reuse by allowing for the development on some parcels to proceed before cleanup is completed on other portions of the property. In addition, the parties discussed modifications that would accommodate infrastructure construction at the site. No proposed modifications were made to the permit before the pilot was put on hold.

- *Stakeholders were concerned that potential environmental liability would deter investors and developers.* The Commonwealth of Puerto Rico and UCC, LLC felt that because of the perceived potential environmental liability, they would not be able to attract investors, developers, purchasers, and tenants without assurance that the site will not incur

environmental costs to future owners and tenants. The pilot process provided a forum for the parties to discuss a variety of tools potentially available to mitigate liability concerns, including comfort letters and tools to accommodate the reuse potential of the site, such as ready for reuse determinations. EPA Region 2 drafted a comfort letter for a portion of the site, indicating that the Agency did not intend to further exercise its RCRA corrective action response and enforcement authorities, based on conditions currently known at the specified portion of the site. However, some non-EPA pilot team members provided feedback that the comfort letter, as drafted, would not sufficiently assist their efforts to attract investors or enhance the general marketability of the site in support of the Port of the Americas project. A variety of approaches to address these concerns were discussed, including the possibility of incorporating appropriate approaches used in ready for reuse determinations. Ultimately, EPA did not revise the draft comfort letter or issue the original draft letter in final form.

- *A U.S. Army Corps of Engineers Environmental Impact Statement contributed to Puerto Rico's decision to locate the primary port in Ponce.* While this pilot team was active, the U.S. Army Corps of Engineers was conducting an environmental impact analysis on the potential use of both Guayanilla and Ponce for the Port of the Americas. One of the key findings of the analysis was that the Guayanilla area is a major habitat for the endangered manatee. The Commonwealth of Puerto Rico, citing these findings, decided to shift the primary location of the planned port to Ponce. In comparable situations where potential drawbacks to reuse arise as the result of environmental considerations, owners/developers might propose alternate plans to alleviate the environmental concerns. The pilot team was not fully informed about the developments in the environmental impact analysis until late in the process and the decision to locate the port in Ponce was made rather quickly. The team did not have the opportunity to explore the possibility of alternate approaches.

Lessons Learned

- *Adequate representation by all key stakeholders is beneficial.* Adequate representation can help ensure that all points of view are considered, that participants have the authority to negotiate and commit to important agreements, and that the group is informed about all relevant developments affecting the project. In this case, the project was hampered because several key stakeholders did not participate in the process, others participated inconsistently, and some representatives were not authorized to make commitments. The team would have benefitted by greater participation from the commonwealth's environmental and financial agencies, as well as by a well-briefed representative from the industrial redevelopment department in a position to speak for the government. In addition, better communication between mainland and island representatives from all agencies involved would have alerted the team about the environmental concerns that Puerto Rico cited as the basis for its decision to build the port at an alternative site.
- *It is critical that stakeholders are aware of other developments or decisions that might impact their project.* The findings of the U.S. Army Corps of Engineers environmental impact analysis led to Puerto Rico's decision to shift the location of the primary port to Ponce. The pilot team was not informed that the analysis was pending. Had the team been briefed on

the environmental impact investigation earlier, the uncertainty related to the investigation could have been considered as an important factor impacting the pilot and the proposed reuse.

- ***A feasible reuse plan is needed early in the process in order to coordinate remediation with reuse.*** A site plan detailing the placement of facilities, roads, and other utilities could have helped the team overlay the port design onto the existing RCRA permit, address contingencies, delineate the roles of the various parties, and expedite the RCRA decision-making process.
- ***A mechanism is needed to educate and update all stakeholders about tools that reduce liability concerns, expedite cleanup, and promote reuse of RCRA sites, and to encourage the appropriate use of these tools and innovations in all EPA Regions.*** Some of the stakeholders were not aware of, up to date on, or in agreement about the applications, purposes, and limitations of the tools available widely or on a pilot basis. Considerable time was spent discussing parceling, comfort letters, and ready for reuse determinations.

Parceling, or carving out a clean portion of a site from being subject to RCRA corrective action, raised regulatory issues that the pilot team was not able to resolve. The pilot team also discussed the use of comfort letters. In the course of this discussion, a suggestion was made to go beyond the traditional comfort letter and more directly incorporate the element of reuse. The traditional draft comfort letter presented by EPA did not sufficiently satisfy the goals of Puerto Rico and UCC, LLC. They felt that it would not help attract investors to the site. A decision was subsequently made to hold off on issuing the comfort letter.

Discussion then focused on the Agency's new pilot initiative to issue ready for reuse determinations at RCRA facilities and Superfund sites. The team expressed a strong interest in pursuing this approach. However, group discussions continued to focus on provisions of the RCRA permit and specific SWMU issues, including the potential disturbance of a SWMU by the proposed road expansion.

- ***Property owners can benefit from development of a long-term strategy that considers reuse along with remediation.*** During this process, UCC, LLC realized that it made good business sense to work toward a cleanup solution that could lead to the sale or lease of the property instead of warehousing the site or concentrating solely on permit issues to the exclusion of reuse potential. Maintaining an unused property can entail long-term operations and maintenance costs with no benefit for the owner. Although there may be up-front costs for planning reuse along with remediation, such planning gives a site owner the option of divesting a property for which it no longer has any use.
- ***An advocate to champion and shepherd the larger reuse project, beyond RCRA cleanup concerns, is needed.*** The Port of the Americas is a large and complex reuse project. Many stakeholders consistently participated in the pilot and worked diligently to address cleanup concerns at the UCC, LLC site to accommodate the Port of the Americas project. However, the pilot team would have benefitted from the presence of an assertive advocate able to identify all issues relevant to the project.

- ***The reuse and political aspects of the project may be more significant in determining the outcome of the project than RCRA cleanup concerns.*** EPA was able to revise the closure plan for UCC, LLC in response to reuse aspects of the Port of the Americas project, but it was the political and Environmental Impact Statement aspects that ultimately suspended redevelopment for the Port of the Americas project at this RCRA Brownfields Prevention Pilot.

EPA Region 2 Pilot Team Leader: Mike Poetzsch, 212-637-4147

BP Wood River Wood River, Illinois

Site Description

In 1907, Standard Oil located a 600-acre oil refining operation in the city of Wood River, a small community (population 11,296) located approximately 15 miles northeast of downtown St. Louis, Missouri, in the River Bend region of southwest Illinois. Soon after the refinery opened, Standard Oil became the area's largest employer and the backbone of the local economy. The main products of the first refinery were coke, paraffin, kerosene, fuel oil, and asphalt. The refinery began processing gasoline in 1911 and operated until the mid-1980s, during which time Standard Oil became part of Amoco. Other Amoco businesses, including a chemical storage facility, continued operating on the site until 1993. In 1999, BP merged with Amoco and subsequently assumed ownership and operations of the facility under the BP name.

The city of Wood River and other taxing entities have experienced a significant loss in taxes as the assessed value of the property dropped by more than \$20.8 million since the refinery and chemical operations closed and were dismantled in 1993. The city's population, which also was negatively affected by the refinery's closure, has been decreasing steadily since 1970, when it peaked at 13,186.

Different portions of the BP Wood River property have been used for a variety of industrial activities, including petroleum processing, storage, and distribution. The surplus parcels at the former refinery site are covered by two RCRA permits: one for the Main Plant area, and the other for the Riverfront Property area. The Riverfront Property is separated from the Main Plant area by a public road and a flood protection dike. The RCRA permits require BP to address a total of 29 Solid Waste Management Units and 10 other areas where petroleum products have been released.

Reuse Vision

The site reuse plan calls for the development of 46 acres of mixed use commercial and retail space called "American Commons."

The city submitted an application for the RCRA Brownfields Prevention Pilot program in 2001. This pilot focused on the cleanup and reuse of two parcels totaling approximately 50 acres at the northeast and northwest corners of the Main Plant area. Because the Wood River refinery is a state-led RCRA site, the Illinois Environmental Protection Agency (Illinois EPA) provided regulatory oversight. The two pilot areas have more than six city blocks of frontage along a heavily traveled four-lane state road, affording excellent reuse potential.

In January 2001, prior to being selected as a RCRA Brownfields Prevention Pilot, BP Wood River was the site where EPA announced its second round of RCRA Cleanup Reforms.

Pilot Goals

The primary goal of the BP Wood River RCRA Brownfields Prevention Pilot was to accelerate the cleanup of two parcels located on a former refinery site and capitalize on the reuse potential of these properties. The site reuse plan calls for the development of 46 acres of mixed use commercial and retail space called “American Commons.” Specific pilot goals were to:

- Establish a formal partnership between BP, state and federal regulators, the local developer (RLJ, LLC), and the city of Wood River to hasten cleanup and reuse of the site;
- Resolve liability issues to the satisfaction of lending institutions;
- Streamline the cleanup and redevelopment processes while ensuring that the site remains protective of human health and the environment; and
- Return two portions of the 600-acre site to productive use.

Proposed innovations included:

- Initiating a formal partnership between the city, BP, the developer, and the primary regulatory agencies to improve communication, foster innovation, and speed the redevelopment process;
- Parceling the northwest and northeast portions of the refinery site to accommodate accelerated redevelopment;
- Issuing a comfort letter and two no further action letters from Illinois EPA to BP to alleviate investor liability concerns by stating that the site has been sufficiently cleaned up and redevelopment can proceed without jeopardizing human health or the environment; and
- Streamlining Illinois EPA’s review and permitting process to facilitate the hastening of the redevelopment window.

Before the pilot was awarded to Wood River, BP, and a local developer, RLJ, LLC, had begun informal discussions on the reuse potential of the site. This pilot helped bring these discussions from the drawing board to reality by encouraging Illinois EPA, U.S. EPA, and the city of Wood River to work together with BP and the developer to help facilitate the return of this site to productive use. These primary stakeholders met monthly in Springfield and at the BP site, and held monthly teleconferences. These meetings helped establish a positive working relationship between BP and Illinois EPA. This spirit of cooperation was extremely beneficial to expediting the issuance of a comfort letter and two no further action letters by Illinois EPA, thereby making site reuse possible. The comfort letter, which was the first of its kind issued in Illinois, stated that Illinois EPA had reviewed the environmental site investigations and determined that the soils within the northwest parcel pose no threat to human health via the soil ingestion and inhalation exposure routes. The two no further action letters went a step further, concluding that both the northwest and northeast parcels required no further remediation and that redevelopment could proceed subject to specific institutional controls.

Current Status

The BP Wood River pilot fulfilled each of its stated goals. The pilot successfully brought together local, state, federal, and private-sector stakeholders to accelerate the redevelopment of

the BP Wood River refinery site. Use of innovative tools, including comfort and no further action letters and a streamlined regulatory approach, facilitated site reuse by helping to allay investor concerns, satisfying regulatory requirements, and expediting the process. In addition, the regulatory agencies and BP ensured that the pilot site remains protective of human health and the environment by employing groundwater management zones, environmental land use restrictions, and other institutional controls limiting future uses and minimizing potential exposure to contaminants.

To date, BP has spent more than \$70 million remediating various portions of the old refinery site. Two concrete and asphalt caps were installed at the northwest parcel and covered with ten feet of clean soil. In the northeast parcel, contaminated soil was excavated and a soil vapor extraction system was installed. BP also has committed to the withdrawal of a sufficient amount of groundwater using a pump-and-treat system to ensure that no contaminated groundwater flows off-site.

The groundbreaking ceremony for the northwest parcel occurred in August 2002. Both parcels targeted for this pilot are being graded and transportation improvements are being made. Once the road access has been improved, the developer can begin construction of the American Commons retail complex. The first phase of development, which includes the northwest and northeast parcels, is expected to result in 46 acres of retail space. Using the innovative streamlined process developed during this pilot, BP hopes to prepare for reuse a significant portion of the remaining refinery property. When cleanup and redevelopment is completed, the entire site is projected to employ 2,000 people, which is roughly the same number of local residents employed by the refinery during its heyday.

Challenges

- *Lenders were wary of financing reuse activities on a site that was formerly subject to RCRA corrective action, for fear of future liability.* The site developer, RLJ, LLC, initially had a difficult time securing loans for the proposed American Commons project because banks and other lenders were concerned about potential liability for future environmental problems at the site. Illinois EPA addressed these concerns by issuing both a comfort letter (the first of its kind in Illinois) and two no further action letters, one for each of the parcels. These letters certified that the properties were cleaned up to exacting standards and that redevelopment could proceed safely. In addition, a newly signed Memorandum of Understanding (MOU) between U.S. EPA and Illinois EPA assured lenders and the developer that decisions made under Illinois EPA's hazardous waste program satisfy both state and federal corrective action requirements. Illinois EPA also signed an MOU with the city of Wood River that approved the use of a local ordinance prohibiting the drilling of drinking-water wells as an institutional control. Illinois EPA required BP to cover contaminated soil with engineered barriers that protect clean soil above the cap from contaminated soil below it. Institutional controls will ensure that the caps are properly maintained, that workers are protected from exposure to contaminants during future construction activities, and that soil removed from the site is properly managed. In addition, Illinois EPA restricted future reuse of the parcels to commercial or industrial redevelopment.

- *When it comes to project timing, the expectations of site owners and developers are different than those of regulators.* For site owners and developers, time is money. In this instance, the city of Wood River also was eager to begin redevelopment activities so the city could realize the economic benefits of returning a vacant property to productive use. Illinois EPA, on the other hand, is responsible for ensuring that BP and the developer comply with all regulatory requirements—a process that can take a significant amount of time. Early in the pilot process, BP, Illinois EPA, the developer, and the city met to discuss priorities and share perspectives. It became clear to Illinois EPA how important this redevelopment project was to the economic well-being of the city and the quality of life of its residents. To facilitate progress at the site, Illinois EPA worked with BP, Wood River, and the developer to provide a streamlined approach for submitting and reviewing corrective action documents. Illinois EPA also hosted monthly progress meetings for stakeholders to expedite the process and resolve pending technical issues. By listening to each other's concerns and thinking outside the box, pilot stakeholders were able to speed up the regulatory process and begin the redevelopment on schedule.
- *Because of their higher development potential, stakeholders wanted some parcels addressed faster than the complete facility. Only portions of the 600-acre site were fully cleaned up and suitable for reuse.* BP, the city of Wood River, the developer, and Illinois EPA worked together to implement streamlined corrective action approaches that protect human health and the environment while providing the flexibility to focus on the parts of the site with the highest reuse potential. Through a process known as parceling, cleaned up or uncontaminated portions of the 600-acre refinery site were declared suitable for redevelopment, while the remainder of the site remained subject to corrective action requirements. Illinois EPA authorized redevelopment of the northwest and northeast parcels, which together account for less than 10% of the total area of the former refinery site. BP is continuing remediation activities throughout the rest of the site in the hope that eventually the majority of the site will be available for reuse.

Lessons Learned

- ***Parceling large RCRA sites can greatly accelerate cleanup and reuse.*** After the Phase 1 RCRA Facility Investigation (RFI) was completed and BP established a groundwater management zone to remediate/control groundwater in the uppermost aquifer beneath the facility, Illinois EPA allowed BP to conduct further investigations and remediation on a parcel-by-parcel basis. Illinois EPA allowed BP to address the northeast and northwest parcels first. The revised process was approved via a letter agreement. Illinois EPA's certification that two small parcels of the 600-acre former refinery site were suitable for reuse and alleviation of concerns regarding potential RCRA cleanup liability status made the properties more attractive to the developer and lenders. Parceling the site facilitated reuse of the northeast and northwest parcels and set a useful precedent for future parceling at the Wood River refinery.

- ***A proactive owner/operator can capably serve as project champion.*** Some owners and operators of sites that are or have been subject to RCRA corrective action simply allow their properties to remain vacant and unused following cleanup to avoid potential future liability or the costs associated with remediating a site to commercial or residential reuse standards. This practice, known as “mothballing,” prevents sites from realizing their reuse potential and limits the economic and aesthetic community benefits that often accompany reuse. BP began informal discussions with the developer about the site’s reuse potential years before the company was formally approached by the city and asked to participate in this pilot. Recognizing the city’s declining economic climate and wanting to give something back to the community that had sustained the refinery for 75 years, BP willingly entered into the pilot partnership. The company has spent more than \$70 million to clean up the site to commercial reuse standards and is continuing cleanup activities throughout the former refinery site. BP’s willingness to clean up and redevelop the site also had positive public relations implications for the company.
- ***Effective partnerships build trust, improve communication, and facilitate innovation.*** The hallmark of this pilot was unprecedented cooperation between BP, Illinois EPA, U.S. EPA, the city of Wood River, and RLJ, LLC, with the common goal of facilitating the return of the former RCRA site to productive use. The partners became a team that met monthly and participated in regularly scheduled conference calls to discuss needs, share perspectives, and address pertinent issues. By meeting regularly with city administrators in Springfield, BP and Illinois EPA were educated about the community’s concerns and expedited the cleanup and reuse process to stimulate the town’s sagging economy. By establishing a working relationship based on trust and a mutual goal, the stakeholders were able to accelerate return of the site to reuse by using innovative tools, including parceling, no further action letters, and streamlined reporting.
- ***RCRA sites can be effectively cleaned up with reuse as a goal.*** By working together with the community’s needs in mind, BP and Illinois EPA were able to expedite the return of the site to reuse. Site cleanup and reuse were accelerated because, among other things, both the site owner and the regulator recognized the importance of reuse to the city’s financial well-being. Illinois EPA streamlined its investigative and reporting procedures and promptly issued no further action letters to help ensure that the properties were returned to productive use as quickly as possible. BP invested significant financial and human resources into site cleanup, and provided sampling and other information to Illinois EPA in a timely manner.
- ***The use of comfort and no further action letters can help alleviate lender and developer liability concerns.*** To a large extent, the comfort and no further action letters issued by Illinois EPA made this reuse project possible. These tools enabled the developer to convince lending institutions to financially support the project. At Wood River, the two no further action letters provided reassurance to the developer and lenders that the sites were adequately cleaned up. In essence, the letters certified that the northeast and northwest parcels could be safely redeveloped without exposing people to harmful contamination as long as institutional controls were maintained. Institutional controls called for the perpetual maintenance of the caps, safe handling of removed soil, implementation of a site safety plan to protect

construction workers, and restrictions on future land use. The MOU between Illinois EPA and U.S. EPA further strengthened the comfort level by helping to address lenders' concerns about future environmental liability at the site.

EPA Region 5 Pilot Team Leader: Ann Wentz, 312-886-8097

City of Muskegon Heights, Michigan

Site Description

The city of Muskegon Heights operated a municipal wastewater treatment plant for 50 years. When the city connected to a regional wastewater treatment center, the city's plant was idled. To reuse the site, the city leased the facility in 1978 to Systech Corporation for the treatment of hazardous waste. Due to the treatment activities, RCRA regulated the site as a Treatment, Storage, and Disposal Facility (TSDF). In 1985, Tricil began TSDF operations at the site. The facility stopped accepting wastes in 1990, and eventually was acquired by Safety-Kleen Corp. (Safety-Kleen), which declared bankruptcy in June 2000.

The city of Muskegon Heights has been approached by a developer to purchase the property and construct residential homes and a recreation area on the site. The proposed development is needed to attract middle-income families back to this predominately African-American community, where the poverty rate is about 33%. The city fully supports the redevelopment proposal, but securing financing for infrastructure has posed a particular challenge. The RCRA Brownfields Prevention Pilot, launched in 2001, was sought to help leverage resources from the State of Michigan for demolition of the wastewater treatment plant.

Reuse Vision

A developer is interested in constructing affordable, middle-income homes and a recreation area on the site.

At the start of the pilot, the risks to human health and the environment posed by the site were unknown. The Michigan Department of Environmental Quality (MDEQ) had accepted Tricil's closure certification for its RCRA-regulated units in August 1995, but the site was a low priority for state corrective action. EPA Region 5 and MDEQ have a Memorandum of Understanding which is designed to help address concerns that cleanup conducted by one program would be addressed by the other.

Pilot Goals

The proposed goals of the pilot were to:

- Develop a corrective action strategy between federal, state, and local stakeholders;
- Negotiate a process for corrective action implementation;
- Address lender and purchaser liability concerns; and
- Pave the way for redevelopment of the property for residential use.

Proposed innovations included:

- Demonstrating EPA's statewide MOU with the State of Michigan;
- Leveraging dollars from the State of Michigan for demolition; and
- Developing creative measures for addressing liability concerns.

A pilot team comprised of representatives from U.S. EPA Headquarters, EPA Region 5, MDEQ, the city of Muskegon Heights, Safety-Kleen, and the developers was formed to guide the pilot. A meeting was held to kick off the effort in October 2001, and the team has met monthly via teleconference.

Current Status

Two years after the start of the pilot, creative approaches have been crafted to address pilot goals. Additional sampling has been conducted to better characterize the site. There is a need to develop a corrective action strategy and to provide appropriate assurances to lenders, state grant programs, and others considering investing in the site. Once site characterization is complete and corrective action needs are defined, a more specific strategy and process for implementation of corrective action under Michigan's voluntary cleanup program is planned. Progress towards redevelopment has been slower than expected because finding sources of funding for infrastructure—including full or partial demolition of the wastewater treatment plant—continues to present a daunting challenge. The developers remain interested in the project, as long as cleanup issues are resolved and the site is prepared for construction. In the meantime, the pilot team already has taken significant steps to address potential purchaser liability concerns and to identify potential institutional controls to help move the project forward towards cleanup and revitalization once funding issues are resolved.

Challenges

- *Finding and securing financing for site characterization, demolition, and cleanup has been difficult.* By far, the most intractable barrier to progress has been a lack of resources for site characterization and for demolition of the wastewater treatment plant. The city's application for Core Community Funding for demolition was turned down by the Michigan Economic Development Corporation (MEDC). MEDC's main concern was uncertainty about environmental contamination. In addition, MEDC focuses primarily on industrial and commercial redevelopment projects that lead to job creation, rather than on creation of affordable housing.

The pilot team has looked creatively for other resources throughout the pilot effort, but with limited success. The city's counsel investigated financial assurance mechanisms from old insurance policies, environmental escrow accounts, and other mechanisms that could provide potential sources of cleanup funds available through Safety-Kleen's Chapter 11 bankruptcy filing. Counsel also researched the sale of Safety-Kleen's chemical services division to Clean Harbors, Inc., as part of the bankruptcy settlement. Muskegon Heights applied for, but did not receive, assessment funding for the site under EPA's Brownfields Grants Program.

- *Uncertainty regarding environmental contamination needed to be addressed, while accommodating plans for redevelopment (and addressing concerns about marketability).* At the beginning of this pilot project, information from past site sampling had not been compiled. Some information was in MDEQ's files and Safety-Kleen's archives. The pilot team members, by building trust and a sense of common goals, brought together the data they each had, and a more complete site history was compiled for the first time.

To supplement the existing data, using funding from EPA Region 5 and through an EPA RCRA Brownfields Prevention TSE, limited sampling was conducted at the facility in early 2003. While additional site investigation is needed to answer remaining questions about sources of groundwater contamination, all parties agreed that nothing in the sampling report would preclude residential redevelopment. The city plans to re-apply to MEDC for demolition funding now that this new data greatly reduces uncertainty about environmental conditions at the site.

- *Concerns about remaining contamination needed to be addressed, while accommodating plans for reuse.* Early in the pilot, the team identified and began to resolve potential issues related to remaining contamination, including how to accommodate plans for residential redevelopment of the property while protecting human health and the environment. While restrictive covenants on deeds to properties developed and sold probably would not restrict marketability, strong regulatory regimes that affected resale by homeowners could be a problem. The sampling performed in the winter of 2003 resolved many issues about groundwater contamination, and Michigan's brownfields law provided flexibility that enabled the city to forego deed restrictions on individual properties redeveloped under the project. MDEQ agreed that the city of Muskegon Heights could pass a local ordinance to prohibit the use of groundwater, and thereby require use of the municipal water supply as an institutional control. In addition to enacting the ordinance, the city also plans to re-zone the site from industrial to residential use at the end of the redevelopment process.
- *The city and the developers wanted to assure the community that the proposed development was safe.* The pilot team decided to wait until the site was characterized before communicating with the community. This way, messages could focus on the specific risks that existed, how the risks were being managed, and how the proposed institutional controls would help to manage these risks. They also could address fears regarding potential liability concerns by future homeowners and build support in the community for cleaning up and reusing the site. Although the community stakeholders were involved in the very beginning of this process, prior to the formation of the Muskegon Heights team, they were not as involved during the last several stages (site assessment and the search for funds). As the project continues forward, it is hoped that the community will be significantly re-engaged in the cleanup and reuse effort, especially from the conceptual stage through the actual development stage.

Lessons Learned

- ***Reuse potential can help move an inactive site toward cleanup.*** At the beginning of the pilot, the site was a low priority for state corrective action, its regulatory status was unclear, and the risks to human health and the environment posed by the site were unknown. The city's interest in redeveloping the site catalyzed efforts to identify and address RCRA corrective action issues. A team approach that has built trust and commitment to "results over process" has allowed stakeholders to step out of the traditional roles of regulators and the regulated community and enabled movement toward the team's common goals.
- ***Using a team approach, regulatory issues can be addressed in an expedited manner.*** Although Safety-Kleen was moving towards bankruptcy at the time, its representative on the pilot team voluntarily compiled a site history that described previous site investigations and clarified the site's regulatory status. The pilot provided one of the first opportunities to clarify and apply the voluntary corrective action concepts addressed in the MOU between EPA Region 5 and the State of Michigan. EPA and MDEQ staff met in October 2001 to clarify the MOU. As a result of this meeting, EPA and MDEQ staff drafted a technical document that helps to address concerns that a cleanup conducted by one program would be questioned by the other. In addition, lawyers for EPA Region 5, MDEQ, and city of Muskegon Heights were involved early in the process. They met to identify liability concerns and a variety of other issues, and to develop strategies for resolving them. Instead of issuing enforcement orders, MDEQ and the city have worked together closely to develop other strategies that move the site toward cleanup.
- ***Small municipalities, particularly economically disadvantaged environmental justice communities, face special challenges related to reuse of RCRA Brownfields.*** For many brownfields redevelopment efforts, the potential return on investment often means developers are able and willing to invest in site cleanup. Here, the developers are motivated, but do not have the resources to complete necessary site characterization and demolition work. The city also has limited resources and lacks expertise in identifying and tapping into state and federal programs that could provide assistance. Technical assistance to help navigate the maze of potential funding sources would be useful as the project continues.

The Brownfields law prohibits the use of grant or loan funds for the payment of a response cost at a brownfield site for which the recipient of the grant or loan is potentially liable under Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This prohibition limited the city's ability to leverage resources for this property when applying for FY03 funding under the EPA Brownfields Grants Program and has similarly impacted over 200 other applicants.

- ***Creative approaches can be found to address liability concerns.*** The pilot identified and began to resolve RCRA liability issues early in the process. Several potential mechanisms were explored, including covenants not to sue, prospective purchaser agreements, and other vehicles that address liability concerns. In June 2002, pilot team members from EPA Region 5, MDEQ, and the city developed an innovative approach to address concerns that the

developers and future homeowners may be held liable for conditions at the site resulting from past uses.

- ***A team benefits from strong and committed champions from every stakeholder group to be successful.*** A face-to-face kickoff meeting and site visit helped promote a team approach from the beginning. Most stakeholders have been involved in the monthly teleconference calls, and team members have worked within their organizations to focus attention, time, and resources to meet pilot needs. This ongoing commitment has been very important to maintaining steady progress. Continuing participation from the developers, who participated in the kickoff meeting and have maintained contact with the city but who have not been active team participants, may have helped by providing more detailed information about the planned reuse.
- ***A clear understanding of the exact alterations needed to redevelop a property is useful in focusing sampling investigation activities.*** The developers supplied a site plan with drawings at the pilot kickoff meeting. Still, more detailed plans for the site from the developer (including, for example, topographical maps, plans for demolition of existing structures, excavations, fill material additions, etc.) could help save time and money by allowing site investigations to focus on specific areas and questions of concern.

EPA Region 5 Pilot Team Leader: Ann Wentz, 312-886-8097

**Approved Oil Services/Milt Adams, Inc.
Commerce City, Colorado**

Site Description

The Approved Oil Services/Milt Adams, Inc., (AOS/MAI) facility is a former used-oil processing complex in an old section of Commerce City, Colorado. A railway and major city thoroughfare are proximate to this one-acre property, which is in a mixed industrial and residential area. Of the 8,800 residents living within a one-mile radius of the site, 38% are minority, and 20% live in poverty.

The property was used to process used oil from 1947 until 1997, when the owner initiated a cleanup action ordered by the Colorado Department of Public Health and Environment (CDPHE). Soil and groundwater were contaminated with petroleum hydrocarbons and other organic substances. In 1998, AOS/MAI installed a

groundwater remediation system and removed numerous storage tanks and 2,000 cubic yards of contaminated soil. However, AOS/MAI was unable to complete the soil cleanup due to financial insolvency, resulting in significant amounts of excavated contaminated soils stockpiled on site. In July 1999, the state requested that EPA directly oversee cleanup at the site. EPA issued a limited-scope RCRA 7003 order in 1999 that addressed site security. In August 2001, EPA selected the property for a RCRA Brownfields Prevention Pilot.

Reuse Vision

The site owner is working with the city, nearby residents, potential developers, and EPA (as appropriate) to establish a reuse vision for the site and to redevelop the site based on that vision.

Pilot Goals

The proposed goals and innovations of the pilot as expressed in the pilot application were to:

- Initiate an Alternative Dispute Resolution (ADR) process for the purpose of establishing RCRA and CERCLA environmental cleanup goals that support local reuse plans, and for identifying financial sources for the cleanup;
- Conclude the site investigation;
- Scope out remedial requirements and long-term institutional controls for the site;
- Develop an approach that could serve as a model for other RCRA cleanups at sites where the owner is insolvent (except for the intrinsic value of the property) or bankrupt; and
- Work with the city, nearby residents, and potential developers after cleanup is completed to establish a reuse vision for the site and to redevelop the site based on that vision.

Current Status

EPA Region 8 worked diligently to obtain ADR funds to facilitate an initial meeting with all stakeholders. The facilitated sessions led to the formation of the Stakeholder Steering Committee (SSC) representing the used oil generators and waste oil contributors. The SSC's goals were to complete the cleanup and address their risk of liability. The voluntary formation of the SSC ended the need for EPA to fund an ADR process. Another pilot goal was met when one of the primary stakeholders voluntarily completed site investigations.

During the pilot, EPA and the CDPHE provided an initial comfort letter to encourage stakeholder participation in the SSC's money collection effort. A comfort letter is not a release from liability but a statement of the current intentions of a regulator regarding a site. In this case, the comfort letter stated that, if remediation of the site accommodates unrestricted land use, no remedial authority expects further involvement at the site. The comfort letter was sent to 151 stakeholders that had sent over 10,000 gallons of used oil to the facility while it was operating. SSC members and EPA made a considerable effort urging reluctant stakeholders to cooperate in the voluntary allocation system set up to collect money for the cleanup.

A remediation work plan was developed as part of completing site investigations. To limit stakeholders' future liability, the remediation work plan aimed to clean up the site to Colorado's clean closure standards that would accommodate unrestricted future use of the site. EPA and the CDPHE reviewed and approved the work plan. When the SSC collected enough cleanup funds, it executed a fixed-price contract with an environmental consultant that included an insurance policy to protect against cost overruns above the estimated cost of the cleanup (cost-cap insurance). Although the SSC could not obtain environmental liability insurance, EPA and CDPHE distributed a second letter to stakeholders who contributed to the cleanup, assuring them that it was unlikely that additional cleanup money would be sought from them, because it was anticipated that the site was being cleaned up to unrestricted-use levels, and that the agencies would first pursue non-contributors if additional funds were required.

Cleanup activities began on June 1, 2003. Most of the structures, tanks, and equipment on the property were removed. The contaminated soil was excavated and treated for offsite disposal, and clean backfill material replaced the impacted soil. Due to the active groundwater cleanup conducted in 1997 and natural attenuation, no further groundwater cleanup was anticipated. Cleanup was completed on August 28, 2003, except for receipt of the groundwater analytical results. The original cleanup goals for the pilot were far exceeded by the actual results. The facility has been clean-closed, and unrestricted land-use cleanup levels have been achieved. The site owner is working with the city, nearby residents, potential developers, and EPA (as appropriate) to establish a reuse vision for the site and to redevelop the site based on that vision.

An approach that could serve as a model for other RCRA sites where the owner is insolvent has been developed and successfully implemented at the OAS/MAI site. Whether this model will be implemented at other sites may hinge on issues concerning the few companies that decided not to pay their share of the cleanup costs.

Challenges

- *Since the owner was insolvent, obtaining resources to complete the cleanup required significant time and effort.* Several major stakeholders voluntarily established the SSC to coordinate stakeholder actions to raise money for the cleanup. SSC members and EPA spent hundreds of hours convincing other stakeholders to participate, rather than face an enforcement action. EPA provided a facilitator for the first stakeholders' meeting. University of Denver law students identified waste contributors and developed initial lists of contributors to environmental site conditions, which may have saved the project about \$100,000 in additional costs. Partnering with academic institutions that can offer credit to students who assist the project is a useful innovation.
- *Confusion related to CERCLA liability and CERCLA and RCRA regulatory requirements delayed cooperation by private parties, many of whom cited the CERCLA Service Station Dealers Exemption (Section 114(3)) as a reason not to pay for the cleanup.* The SSC sought to initiate and collect money for voluntary cleanup of the site, as well as to reduce potential liability. Early in the pilot process, EPA assisted the SSC's efforts by agreeing for a limited time to not invoke any of its multiple potentially applicable authorities at the site, thereby reducing liability concerns. Most stakeholders eventually concluded that the small settlement contributions required to clean up the property did not justify quarreling over the exemption issue.
- *Stakeholders were concerned about future liability and wanted assurance that their financial support of the cleanup would be a one-time event.* The SSC decided to remediate the site to unrestricted use in order to obtain a clean-closure letter from CDPHE. The SSC negotiated a fixed-price cleanup contract that was to include cost-cap and environmental liability insurance. However, when negotiations with the insurance provider on liability broke down, EPA and CDPHE prepared a second comfort letter to the stakeholders who contributed to the cleanup. Although this letter could not provide full release from liability, due to the good relationship established during the pilot between the regulatory agencies and the stakeholders, the stakeholders took this letter in good faith and proceeded with the cleanup.

Lessons Learned

- ***A voluntary multi-party cleanup at a RCRA brownfield can be successful.*** The project demonstrated that a high-priority RCRA corrective action facility with an insolvent/bankrupt owner/operator can be cleaned up to unrestricted use. Contacting all potential payers at the same time was important, with special attention given up front to the top 25 or so contributors. The stakeholders' priority was clean closure with the removal of liability, rather than with reuse. Thus, setting a target amount of money that covered all costs and that did not change required pre-planning, was critical for success. A reasonable allocation system formulated by the stakeholders was needed to establish responsibility for economic and risk liability. Contact from the regulators, particularly attorneys, was especially important for unconvinced potential payers. Consistent dialogue and collaboration among EPA, CDPHE, and the SSC also were critical to success.

- ***Mistrust and lack of cooperation had to be overcome between regulators and those in the regulated community who lacked previous experience with a multi-party cleanup effort.*** At its initial meeting with stakeholders, EPA expressed a willingness to try methods other than enforcement to get the site remediated and backed this up with continuous involvement in the collection effort and development of two comfort letters. SSC members spent many voluntary hours developing an allocation system and discussing it with other stakeholders. EPA and the SSC explained the voluntary cleanup and allocation system to more than 150 stakeholders and won the trust of most of them. Most stakeholders agreed to pay their full allocation.
- ***There is a need to address the issue of non-payers in a voluntary multi-party cleanup collection system.*** Although most stakeholders paid their full allocation, several stakeholders with large allocations did not pay, including the stakeholder with the largest allocation. EPA continues to evaluate all options, including possible enforcement actions, to deal with these non-payers.
- ***Leadership is needed from both the regulators and regulated community.*** Core members of the SSC, who were highly experienced in multi-party cleanups, were able to champion the approach and reach consensus efficiently. EPA responded with support and encouragement, providing staff and legal resources at the appropriate times and places, particularly to work with companies not convinced about paying their allocation. EPA's consistent participation greatly increased the SSC's level of influence among individual stakeholders and helped overcome mistrust. A vital part of that support were the comfort letters. However, the first letter, stating that no remedial authority expects further involvement at the site if remediation allows for unrestricted land use, took months to receive final approval, did not fully meet the SSC's expectations, and probably delayed the collection process. Without the level of comfort originally hoped for, the SSC sought to include liability insurance within a fixed-price cleanup contract in an effort to protect participating stakeholders from future liability. The SSC also asked EPA for a second comfort letter to be given to those who paid their full allocation. The second comfort letter stated that regulators had no intention of revisiting stakeholders who had paid their allocation if more money was needed for site remediation but did not provide a full release. However, it took months for the second letter to receive final approval, in part because it was tied to a linear allocation system devised by private parties, which is not typically done in CERCLA multi-party collection efforts. Although the vast majority of stakeholders who paid agreed to pay the amount calculated through the SSC's allocation scheme, a few chose to make payments according to a different but equally legitimate scheme. It was strongly recommended that EPA develop an approach that can be applied consistently at other RCRA brownfields sites where comfort letters may be useful.
- ***The size of the site helped and hindered the voluntary cleanup.*** The small size of the property made it difficult for the SSC to attract a typical turnkey type of brownfields redeveloper that takes control of the site, assumes all liabilities, and redevelops the property. The small size also reduced the city's interest. However, the size of the property plus the absence of a long-term cleanup requirement, such as groundwater remediation, kept cleanup costs relatively low and allocations small, which increased stakeholder cooperation. Thus,

while the small size hindered rapid reuse, it helped the remediation. EPA also helped by awarding \$12,000 in RCRA Brownfields TSE funds to aid cleanup by examining potential reuses for the property. The contractor hired with the TSE funds examined surrounding property use, availability for property assemblage, and real estate market conditions and potential future uses of the site in a report. The owners of an adjacent site have expressed some interest in combining their property with AOS/MAI to enhance reuse potential. The SSC found an insurance provider interested in a small site with cleanup costs under a million dollars.

- ***Voluntary cleanups can be accomplished efficiently.*** Stakeholders showed that as the cleanup process becomes more efficient, stakeholder-led voluntary cleanup with EPA support can avoid a lot of the extra costs and time often incurred by initiating an enforcement action. Private parties saw this as a positive experience. Yet, no established system exists for conducting a voluntary cleanup under the federal RCRA brownfields system. The project took about two years, which is approximately the same amount of time a Superfund multi-party cleanup typically takes, and EPA Region 8 expended about the same amount of staff resources needed for a Superfund multi-party cleanup. Sending correspondence to corporate headquarters of the stakeholders delayed corporate decisions on whether to pay. The collection process would have occurred more efficiently had correspondence been sent to each company's environmental director or general counsel, who generally provided timely responses.

EPA Region 8 Pilot Team Leader: Randy Lamdin, 303-312-6350

RCRA Brownfields Prevention Pilots 2000 Updates and Additional Lessons Learned

The RCRA Brownfields Prevention Pilot program was launched in 1999 to encourage and showcase innovative approaches to RCRA cleanups at potential RCRA Brownfields. EPA's September 2001 report, *RCRA Brownfields Prevention Initiative: Pilot Projects 2000 Summary Report*, summarized the experiences and lessons learned through the first four RCRA Brownfields Prevention Pilots launched in 2000.

Since publication of the September 2001 report, notable developments have occurred at three of the four first-round RCRA Brownfields Prevention Pilots. At CBS/Viacom in Bridgeport, Connecticut, two potential purchasers have expressed interest in the site, where cleanup is continuing, but is not yet complete. The future of the Bethlehem Steel Corporation pilot in Lackawanna, New York, looked promising in 2001, but the pilot was put on hold when Bethlehem Steel declared bankruptcy and the property was sold to the International Steel Group of Cleveland, Ohio. At PECO-Energy in Chester, Pennsylvania, cleanup and redevelopment, now slated for early 2004, were accelerated by combining two consent orders into one administrative process. The pilot at the Blue Valley Redevelopment in Kansas City, Missouri, is progressing due to pilot stakeholders' cooperation and commitment to overcoming the many hurdles associated with cleaning up and redeveloping a large multi-facility industrial area. A brief update of each of the Round 1 pilots and additional lessons learned in the two years since the first report was issued, is provided here.

CBS/Viacom Bridgeport, Connecticut

This site is a former electrical wiring manufacturing site that contaminated the soil and groundwater when it operated from 1888 to 1998. Because the property was slated for cleanup and sale, it had to meet the differing cleanup requirements of both RCRA corrective action and the Connecticut Property Transfer Act (CPTA). The primary purpose of the pilot was to resolve these differences and fulfill both state and federal requirements. By 2001, state and federal cleanup requirements had been integrated, and the other related pilot goals had been met, including the formation of a pilot project stakeholder team to address site reuse issues and the distribution of a local community-wide fact sheet. Redevelopment planning was proceeding. Under an agreement with the city of Bridgeport, Viacom had agreed to complete its cleanup obligations under RCRA and the CPTA. Viacom was already operating soil vapor extraction, air sparging systems, and a groundwater recovery and treatment technology on the property.

Current Status: Since 2001, the site has met its short-term RCRA environmental indicator goals to control human exposures and migration of contaminated groundwater, but the cleanup continues with several interim corrective measures still operating at the site. Prime Resources, the potential developer that was given "comfort" and had begun working with Viacom prior to 2001 to complete the purchase of the property, halted the sale, citing the regional economic climate. However, two other potential purchasers are now waiting for the manufacturing economy to

improve before committing to acquiring the site. In the meantime, groundbreaking has occurred for other businesses on properties in the same industrial land block as the Viacom site.

Lessons Learned: This pilot showed that:

- EPA and a non-authorized state program can work together cooperatively to streamline different program approaches. The goals of EPA's RCRA Corrective Action Program, the Connecticut Property Transfer Program, the city of Bridgeport's redevelopment office, the facility owner/operator, and the community were all achieved, and Viacom continues with the cleanup.

EPA Region 1 Pilot Team Leader: Bob O'Meara, 617-918-1360

Bethlehem Steel Corporation Lackawanna, New York

The Bethlehem Steel Corporation site in Lackawanna, New York, is a former major integrated steel mill at which a galvanizing facility still operates. It includes two parcels (102 acres and 500 acres) with good reuse potential that are covered by a RCRA Facility Investigation (RFI) order. The primary pilot goal was to release the 102-acre parcel from the order and move it into the state voluntary cleanup program. EPA released the 102-acre parcel from the RFI order and turned over cleanup of the entire site to the New York State Department of Environmental Conservation (NYSDEC). The future plan was to build a light industrial park.

Current Status: The future looked promising in September 2001, but the pilot is on hold and facing an indefinite delay. The 102-acre parcel requires additional cleanup, but Bethlehem Steel and the NYSDEC had not reached agreement on cleanup levels when the corporation petitioned the U.S. Bankruptcy Court for Chapter 11 bankruptcy protection in October 2001. Cleanup efforts stalled in the interim. In April 2003, the court approved the purchase of the assets of Bethlehem Steel by International Steel Group (ISG) of Cleveland, Ohio. Further efforts with regard to the Lackawanna property have not yet been identified.

Lessons Learned: This pilot showed that:

- Removal of the 102-acre parcel from an EPA RCRA consent order allowed continued progress on redevelopment goals.
- RCRA Interim Status can impose a stigma that discourages reuse. EPA and states should find creative ways to address that stigma wherever appropriate.
- Engaging the public and local community helps focus the dialogue on cleanup and reuse.
- From EPA's perspective, state cleanup programs, such as acceptable voluntary cleanup programs, can help expedite the assessment and cleanup of RCRA sites. We recommend that states not automatically preclude their use at these sites.

- Creating a cooperative working relationship and spirit of trust among diverse stakeholders on the pilot team is beneficial to making progress on the integration of differing regulatory programs. The importance of this lesson has been underscored by the developments that have taken place since 2001. One EPA member of the pilot team thinks the outcome might have been different if the team had done more to help Bethlehem Steel and NYSDEC resolve differences when negotiations seemed to have reached a stalemate. The additional lessons learned about how to create and maintain the spirit of cooperation and trust necessary for such an effort include:
 - Improve communications, build trust, and encourage a team approach by holding face-to-face meetings;
 - Draft pilot goals and agree on language up front, to avoid confusion and misunderstanding later;
 - Resolve communication logjams through an ADR or a similar mediation process;
 - Strive to maintain continuity of involved personnel on both sides; and
 - Work diligently for quick resolution of issues.

EPA Region 2 Pilot Team Leader: Mike Poetzsch, 212-637-4147

PECO-Energy Chester, Pennsylvania

The PECO-Energy Facility is a former 90-acre power generation site, 17 acres of which was leased for hazardous waste recycling and is under a RCRA consent order. The primary pilot goal was to integrate RCRA corrective action with the Pennsylvania Land Recycling and Reclamation Act (Act 2) requirements in order to eliminate duplication and expedite cleanup and reuse, thereby revitalizing an environmental justice community. A property developer purchased most of the site and is in the process of renovating the old power plant building into commercial office space. Integration with Act 2, as well as renovation and cleanup, is ongoing.

Current Status: The cleanup and redevelopment has taken somewhat longer than originally predicted, but now is projected for completion in early 2004. Four tenants are ready to lease 65% of the building. The developer anticipates that these tenants will bring 2,000 new jobs to Chester, Pennsylvania. The PECO-Energy pilot has been completed.

Lessons Learned: This pilot demonstrated that:

- Frequent communications among EPA, PECO-Energy, Pennsylvania Department of Environmental Protection (DEP), the city of Chester, and the public make the process move smoothly.
- Remediation has been faster because the need was eliminated for a second RCRA consent order to investigate the rest of the site, and a third consent order to implement the remedy. By using one administrative process, U.S. EPA, Pennsylvania DEP, and PECO-Energy did not have to duplicate their efforts, thereby saving resources.

- Since 2001, another lesson has been learned. Challenges arise when redevelopment and remediation occur at the same place and time, and the contingencies must be stated clearly so that everyone (EPA, state, and developer) understands and agrees on the process for cleanup if additional contamination is found on the property.

EPA Region 3 Pilot Team Leader: Russell Fish, 215-814-3226

Blue Valley Redevelopment Kansas City, Missouri

Blue Valley is a multi-facility industrial area in the Blue River flood plain that contains RCRA facilities, such as wood treaters and scrap recyclers. A parceling approach, combined with consolidating RCRA, Geographic Information System (GIS), and other environmental data into a “Redevelopment Opportunity Portfolio” for the area, has helped enable the revitalization of several of the properties. The collected environmental information has been developed into an area-wide background study (completed March 2003) for baseline comparison of contaminants in site-specific investigations. The pilot is alive and well, thanks to the persistence and diligence of the organizations concerned with the redevelopment of this industrial corridor.

Current Status: There have been a number of new developments since September 2001. Compass Big Blue, LLC (Compass Environmental) purchased 270 of the 913 acres of the former GST steel mill property and, based on a handshake agreement, agreed to do all the sampling and cleanup on its part of the site, including demolishing all of the old melt and mill buildings. This process is almost complete. EPA plans to process a permit modification to remove this parcel from the rest of the property after completion of cleanup. The property will be redeveloped as light manufacturing and warehousing space.

Weld Wheel established an automobile wheel manufacturing enterprise at the former Rival Crockpot property after EPA wrote a comfort letter stating that the site required no further action with regard to RCRA, CERCLA, or the Underground Storage Tank program. Weld Wheel is expected to create 100 jobs during the next three years.

With assistance provided through an EPA RCRA Brownfields Targeted Site Effort, the Missouri Department of Natural Resources (DNR) completed site investigations at the underutilized Chemical Recovery Corporation site, where redevelopment had been hampered because of suspected contamination. The findings of the sampling conducted under the TSE were consistent with previously collected data, and a no further action determination can now be processed for the site by the Missouri DNR with EPA’s concurrence. A former fire station with architectural and historical significance occupies a portion of the property.

Lessons Learned: This pilot showed that:

- Frequent communication among stakeholders and a willingness to bridge the differences between different levels of government and regulatory programs is beneficial to the success of the project.
- RCRA brownfields reuse is not a “quick fix” process. It takes a long-term commitment from stakeholders, and persistence in working toward pilot goals.

EPA Region 7 Pilot Team Leader: Stephanie Doolan, 913-551-7719